

Water-Data Report 2008

01381800 WHIPPANY RIVER NEAR PINE BROOK, NJ

PASSAIC RIVER BASIN

LOCATION.--Lat 40°50'42", long 74°20'50" referenced to North American Datum of 1983, Parsippany-Troy Hills Township, Morris County, NJ, Hydrologic Unit 02030103, on left upstream wingwall of former bridge on Edwards Road, 200 ft downstream from bridges of Interstate 280, 0.4 mi upstream from Rockaway River, and 1.2 mi southwest of Pine Brook.

DRAINAGE AREA.--68.5 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Low-flow partial-record station water years 1963-69, 1973, 1979-96. November 1992 to September 1996 (gage height and discharge measurements only), October 1996 to current year.

GAGE.--Water-stage recorder, velocity meter (since June 2004), and crest-stage gage. Datum of gage is 162 ft above NGVD of 1929 (from Corps of Engineers' topographic map).

REMARKS.--Records fair. Flow includes sewage effluent from several treatment plants upstream of gage. Discharges may be affected by backwater from the Passaic River when it reaches high stages. Records computed using a stage-discharge rating prior to Mar 17, 2005. Records for Mar 17, 2005 and thereafter, computed using an index-velocity rating. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

01381800 WHIPPANY RIVER NEAR PINE BROOK, NJ—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	32	121	83	244	97	160	152	175	82	56	40	29
2	34	82	70	211	296	166	162	132	68	53	62	28
3	34	63	112	161	400	154	143	109	61	50	77	28
4	34	55	126	117	326	151	158	103	101	53	47	27
5	33	50	99	93	241	204	174	95	89	64	38	30
6	32	70	79	87	193	331	146	82	73	66	40	66
7	31	69	67	91	180	338	131	72	66	57	39	332
8	31	55	65	92	162	331	120	66	61	54	37	462
9	34	50	64	91	139	521	110	113	69	61	38	402
10	119	60	119	90	130	534	105	245	59	71	35	370
11	71	58	106	107	112	513	101	264	62	53	59	278
12	133	54	91	137	93	443	133	218	57	49	67	179
13	96	64	91	123	186	342	122	182	53	47	43	150
14	58	63	150	125	601	260	105	140	59	79	38	98
15	44	93	152	122	658	211	91	115	206	63	39	70
16	38	126	121	107	607	189	83	127	174	50	37	54
17	36	92	118	93	507	165	81	243	111	45	33	46
18	40	75	97	117	453	140	79	268	78	42	33	41
19	44	79	82	142	432	151	74	237	85	41	31	38
20	144	90	80	115	412	276	70	189	63	39	28	36
21	149	98	85	91	346	305	72	190	62	42	30	35
22	90	107	85	79	281	238	68	167	102	38	29	35
23	58	92	109	74	224	192	68	147	222	53	28	34
24	49	75	263	72	183	171	65	126	126	229	28	33
25	56	63	351	68	164	149	61	110	86	270	29	32
26	52	109	316	66	156	137	61	97	68	143	28	168
27	157	169	289	64	200	122	74	93	63	86	27	298
28	302	181	273	63	225	126	108	98	61	79	27	224
29	263	147	261	63	186	123	229	84	59	56	26	189
30	220	108	281	88	---	118	239	74	58	47	64	104
31	169	---	267	86	---	116	---	69	---	43	40	---
Total	2,683	2,618	4,552	3,279	8,190	7,377	3,385	4,430	2,584	2,179	1,217	3,916
Mean	86.5	87.3	147	106	282	238	113	143	86.1	70.3	39.3	131
Max	302	181	351	244	658	534	239	268	222	270	77	462
Min	31	50	64	63	93	116	61	66	53	38	26	27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	143	129	213	175	176	200	217	152	144	89.2	86.9	101
Max	459	265	696	281	282	291	347	274	436	202	255	258
(WY)	(2006)	(2004)	(1997)	(2006)	(2008)	(1999)	(2005)	(1998)	(2003)	(2004)	(2000)	(1999)
Min	28.7	32.8	33.6	43.3	39.7	66.8	97.6	69.4	37.7	23.7	30.8	30.2
(WY)	(2002)	(2002)	(1999)	(2002)	(2002)	(2006)	(2002)	(2005)	(1999)	(1999)	(2005)	(2005)

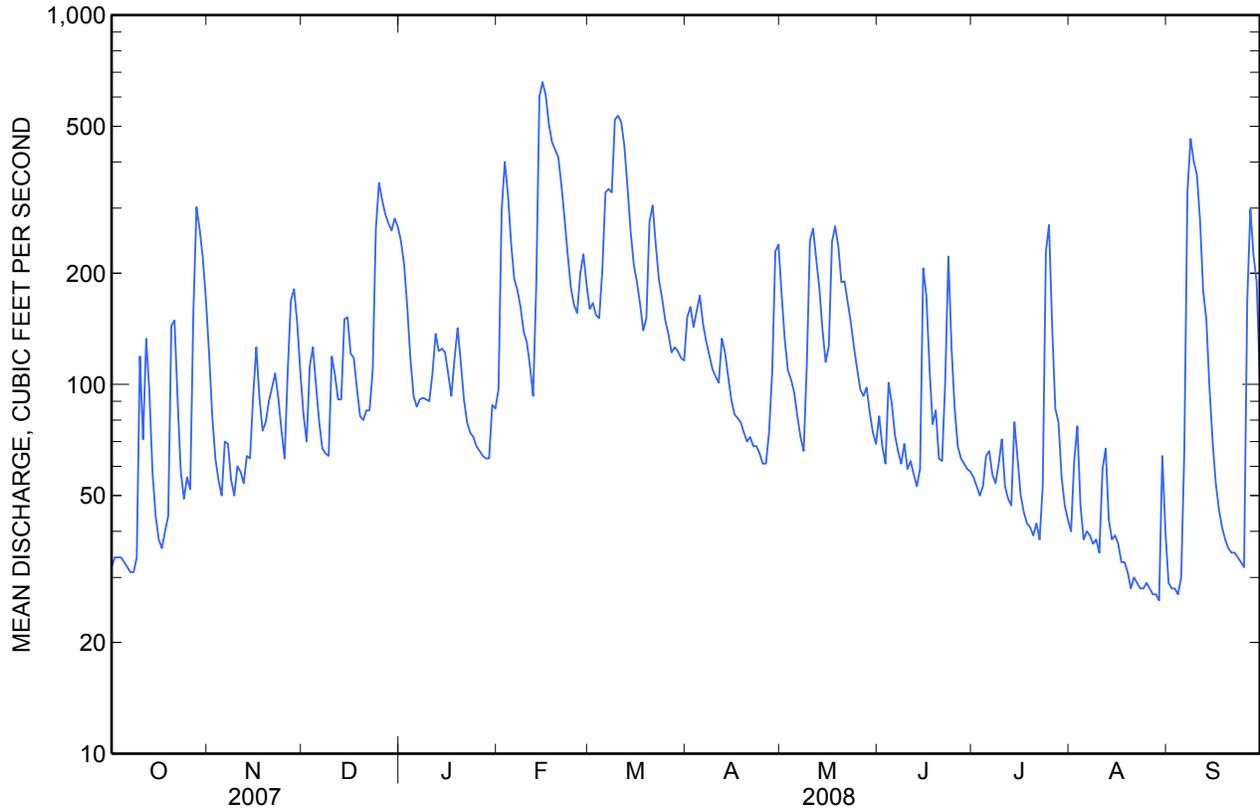
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SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1997 - 2008	
Annual total	45,232		46,410			
Annual mean	124		127		152	
Highest annual mean					236	1997
Lowest annual mean					68.7	2002
Highest daily mean	1,220	Apr 18	658	Feb 15	1,820	Oct 20, 1996
Lowest daily mean	31	Oct 7	26	Aug 29	17	Aug 2, 1999
Annual seven-day minimum	33	Oct 2	28	Aug 23	17	Aug 2, 1999
Maximum peak flow			679	Feb 15	^a 2,080	Oct 20, 1996
Maximum peak stage			7.68	Feb 15	^b 10.09	Apr 17, 2007
10 percent exceeds	257		267		347	
50 percent exceeds	83		91		93	
90 percent exceeds	39		37		31	

^a Estimated.

^b Stage on Oct 20, 1996 was probably higher.



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

REMARKS.--Cooperative Network Site Descriptor: Watershed Integrator, NJ Department of Environmental Protection Watershed Management Area 6.

COOPERATION.--Physical measurements and samples for laboratory analyses were provided by personnel of the NJ Department of Environmental Protection. Determinations of dissolved ammonia, dissolved orthophosphate, and suspended residue were performed by the NJ Department of Health and Senior Services, Environmental and Chemical Laboratory.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 1 of 3

[Remark codes: <, less than; E, estimated.]

Date	Time	Instan- taneous dis- charge, ft ³ /s (00061)	Turbdty white light, det ang 90+/-30 corrctd NTRU (63676)	UV absorb- ance, 254 nm, wat flt units /cm (50624)	UV absorb- ance, 280 nm, wat flt units /cm (61726)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf μS/cm 25 degC (00095)	Temper- ature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO ₃ (00900)
Nov 07...	1000	69	4.9	.237	.182	758	8.4	72	7.5	520	10.3	8.1	130
Mar 12...	1030	461	5.2	.185	.143	750	9.2	73	7.4	429	6.0	5.7	67
May 22...	1000	165	3.8	.292	.223	748	6.2	58	7.5	470	17.5	12.7	110
Sep 04...	1030	27	1.8	.096	.072	760	7.3	85	7.8	823	22.8	22.5	210

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 2 of 3

[Remark codes: <, less than; E, estimated.]

Date	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Potas- sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO ₃ (90410)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L as SiO ₂ (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti- tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total non- filter- able, mg/L (00530)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
Nov 07...	33.3	11.6	3.23	40.7	77	91.6	E.09	14.1	21.6	E271	313	7	.58
Mar 12...	17.7	5.46	1.61	50.4	40	91.8	E.07	5.5	11.2	E209	225	2	.32
May 22...	29.7	9.48	1.96	43.5	74	84.5	E.07	10.6	12.2	E240	308	5	.55
Sep 04...	52.9	19.2	5.53	72.2	104	158	E.09	13.6	33.8	E435	529	4	.57

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 3 of 3

[Remark codes: <, less than; E, estimated.]

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrate + nitrite water fltrd, mg/L as N (00631)	Particulate nitro- gen, susp, water, mg/L (49570)	Total nitro- gen, water, fltrd, mg/L (00602)	Total nitro- gen, water, unfltrd, mg/L (00600)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L as P (00666)	Phos- phorus, water, unfltrd, mg/L as P (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inor- ganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Boron, water, fltrd, µg/L (01020)
Nov 07...	.113	1.97	.05	2.5	2.6	.028	.05	.09	.6	<.04	.6	5.4	63
Mar 12...	.017	.37	.05	.69	.74	E.004	<.04	E.04	.4	<.04	.4	3.9	24
May 22...	.094	.84	.08	1.4	1.5	.040	.06	.10	.5	<.04	.5	6.1	41
Sep 04...	.108	3.70	.05	4.3	4.3	.244	.25	.29	.4	<.04	.4	3.3	101